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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,266	02/05/2001	William Sharpe	976.0089USU	5360

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EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2172

13

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/647,266

Applicant(s)

SHARPE ET AL.

Examiner

Chongshan Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. In view of the Appeal Brief filed on 17 November 2003, PROSECUTION IS HEREBY REOPENED. The rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

2. After an Appeal Conference, Conferees decided to withdraw the Finality of the last Office Action and therefore, the finality of that action is withdrawn.

Response to Arguments

3. Applicant's arguments, see page 6, lines 11-12, filed on November 17, 2003, with respect to the rejection(s) of claim(s) 1-5 and 7-17 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mahoney et al. (Mahoney, 5,999,664). Nelson does not explicitly disclose a layout data type. Mahoney discloses a layout data type in the document search system (Mahoney, col. 2, line 47 – col. 3, line 2, col. 5, lines 41-61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to have a layout data type in the document search system of Nelson in order to narrow the group of documents needed to be searched (Mahoney, col. 2, line 61 – col. 3, line 2). This will improve the search efficiency.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 and 7-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. ("Nelson", 6,243,713) in view of Mahoney et al. ("Mahoney", 5,999,664).

As per claim 1, Nelson discloses a method of searching a database to find documents similar to a query document, comprising:

decomposing the query document into elements of different data types (Nelson, Fig. 3-5, col. 5, lines 52-55, "Compound documents are separated into constituent multimedia components of different data types, such as text, images, video, audio/voice, and other data type", col. 9, lines 18-53);

for one or more of the elements in a first data type, conducting a first data type similarity search to return match results from the database for the one or more elements in the first data type (Nelson, col. 22, lines 31-34, "require the different types of multimedia components to be separately scored and evaluated, with separate queries");

for one or more of the elements in a second data type, conducting a second data type similarity search to return match results from the database for the one or more elements in the first data type (Nelson, col. 22, lines 31-34, “require the different types of multimedia components to be separately scored and evaluated, with separate queries”); and

combining the match results from the first data type similarity search and the second data type similarity search to provide query document match results (Nelson, Fig. 3-5, col. 9, lines 18-53, col. 22, lines 31-34, “the results of which are combined”).

Nelson does not explicitly disclose a layout data type indicating the arrangement of the different data type within the query document. Mahoney discloses a layout data type indicating the arrangement of the different data type within the query document and use the layout data type to narrow the group of documents needed to be searched (Mahoney, col. 2, line 47 – col. 3, line 2, col. 5, lines 41-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a layout data type in the document search system of Nelson in order to narrow the group of documents needed to be searched (Mahoney, col. 2, line 61 – col. 3, line 2). This will improve the search efficiency.

As per claim 2, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 1, and further discloses one of the data types is representative of text (Nelson, col. 5, lines 52-55, “Compound documents are separated into constituent multimedia components of different data types, such as text, images, video, audio/voice, and other data type.”).

As per claim 3, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 2, and further discloses a plurality of the data types are representative of text, separate data

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types of the plurality being representative of different functional blocks of text (Nelson, col. 5, lines 52-55).

As per claim 4, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 1, and further discloses one of the data types is representative of pictorial images (Nelson, col. 5, lines 52-55).

As per claim 5, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 1, and further discloses one of the data types is representative of graphical images (Nelson, col. 5, lines 52-55).

As per claim 7, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 1, and further discloses the step of similarity searching to return match results is carried out, separately, for a plurality of elements having between them more than two data types (Nelson, col. 22, lines 31-34).

As per claim 8, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 1, and further discloses all features of a common data type in the document are treated as one element (Nelson, col. 6, lines 1-34).

As per claim 9, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 1, and further discloses spatially distinct features of a common data type in the document are treated as separate elements (Nelson, col. 6, lines 1-34).

As per claim 10, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 1, and further discloses elements are user selectable or deselectable for the step of similarity searching (Nelson, col. 18, lines 1-10).

As per claim 11, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 1, and further discloses the similarity searching results for separate elements are weighted before combination (Nelson, col. 22, lines 31-34).

As per claim 12, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 11, and further disclose weighting is user selected (Nelson, col. 22, lines 1-6).

As per claim 13, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 11, and further discloses weighting is attributed according to a determined significance of each relevant element in the document (Nelson, col. 21, lines 1-53).

As per claim 14, Nelson discloses a method of searching a database to find documents similar to a query document, comprising:

decomposing the query document into elements of different data types (Nelson, col. 5, lines 52-55, "Compound documents are separated into constituent multimedia components of different data types, such as text, images, video, audio/voice, and other data type.").

Nelson does not explicitly disclose determining a layout element in a layout data type from the spatial arrangement of the elements in the document; and for the layout element, conducting a layout similarity search to return match results from the database for the layout element. Mahoney discloses determining a layout element in a layout data type from the spatial arrangement of the elements in the document; and for the layout element, conducting a layout similarity search to return match results from the database for the layout element (Mahoney, col. 2, line 47 – col. 3, line 2, col. 5, lines 41-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a layout data type in the

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document search system of Nelson in order to narrow the group of documents needed to be searched (Mahoney, col. 2, line 61 – col. 3, line 2). This will improve the search efficiency.

As per claim 15, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 14, and further disclose the layout similarity search involves searching against templates representative of different document types (Mahoney, col. 2, line 47 – col. 3, line 2, col. 5, lines 41-61, Fig. 13-25).

As per claim 16, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 14, and further disclose the elements include elements of separate data types representative of different functional blocks of text (Mahoney, col. 2, line 47 – col. 3, line 2, col. 5, lines 41-61, Fig. 13-25).

As per claim 17, Nelson and Mahoney teach all the claimed subject matters as discussed in claim 14, and further disclose the elements include elements of data types representative of images (Mahoney, col. 2, line 47 – col. 3, line 2, col. 5, lines 41-61, Fig. 13-25).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mahoney et al. (5,999,664) disclose a system for searching a corpus of document images by user specified document layout components.

Palmer et al. (6,002,798) disclose a method and apparatus for creating, indexing and viewing abstracted documents.

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Syeda-Mahmood (6,178,417) discloses method and means of matching documents based on text genre.

Bobrow et al. (6,562,077) disclose sorting image segments into clusters based on a distance measurement.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is 703-305-8319. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703)305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 2, 2004


SHAHID ALAM
PRIMARY EXAMINER